Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Clean Water Partnership Project Work Plan

Doc Type: Contract

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Swift #:	
CR #:	

Project Title: Blue Earth River Green Infrastructure Project

1. Project Summary:

Organization:	City of Winnebago
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E-mail:	cziegler@cityofwinnebago.com

Partner(s):

Organization:	Faribault County SWCD
Type of organization:	Soil & Water Conservation District
Partner Contact:	Michele Wigern
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Fax:	507-526-2508
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MPCA contact(s):

MPCA project manager:	Paul Davis
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Fax:	507-389-5422
E-mail:	Paul.a.davis@state.mn.us

Major watershed(s):

Major watershed/HUC Code:	Blue Earth River Watershed – 0702009
Latitude/Longitude for project:	43°46'12.65"N/ 94°10'28.12"W
County:	Faribault County
Project start/End dates:	October 1, 2014 to September 30, 2014

Project Funding Type (check one):

☐ **CWP Resource Investigation**

☒ **CWP Implementation**

Grant Amount: $10,000

Proposed Cash Match Funds: $10,000

Proposed Inkind Match Funds: $0.00

Proposed Loan Funds: $1,000,000.00

Total project cost: $1,020,000.00

1.1 Project Abstract

The City of Winnebago is undertaking a 3 Phase reconstruction project of 25 city blocks that will involve implementation of green infrastructure and illegal and illicit (I&I) disconnection. In conjunction with the target area projects, green infrastructure will be added throughout the city to reduce volume and treat stormwater runoff.

2. Statement of Problems, Opportunities, and Existing Conditions

2.1 Statement of Problems

The City of Winnebago is undertaking a 25 city block street reconstruction project. In conjunction, green infrastructure elements and illegal and illicit (I&I) connections will be addressed, reducing volume and pollutant loads from entering the Blue Earth River. The City of Winnebago's infrastructure is old and in poor condition, requiring on-going maintenance and repairs. For the past several years, summer rain events have caused significant flooding in the streets resulting in sewer back-ups into homes. These issues have resulted in the dedication of a large amount of City Staff time and resources.

Joints in the sanitary sewer system are likely a significant source of inflow and infiltration. The project area, originally plotted in 1970's, is being completely reconstructed to alleviate inflow issues with emphasis on connections from the curb to structures.

Past flooding problems and I&I concerns provide an opportunity for the City of Winnebago to implement green infrastructure practices to address water storage and make I&I corrections to reduce costly treatment storm water and prevent untreated waste water from entering our streams.

2.2 Existing Conditions

The existing storm sewer system is sparse and consists of undersized mains and inadequate intakes when compared to current design standards. The network of storm sewer lines is undersized for the watershed area drained with many mains broken or partially collapsed, creating frequent flooding problems. Storm sewer intakes are present and mapped in a feasibility study completed by the city. The majority of the intake structures are in poor condition.

This work plan addresses sources and implementation activities under the Lower Minnesota River Dissolved Oxygen TMDL, pages 3-4, 6-8, 11 and 28-35, http://www.pca.state.mn.us/index.php/view-document.html?gid=8001 , for urban practices that reduce phosphorous and sediment loading from the Blue Earth River Basin. It also addresses the Draft Greater Blue Earth Turbidity TMDL implementation activities, pages 168-172 http://www.pca.state.mn.us/index.php/view-document.html?gid=17673 .

According to the 2012 Minnesota Impaired Waters List, the Blue Earth River is impaired for aquatic life and consumption; neither has an approved TMDL or WRAPS completed. Addressing volume and I&I connections within the City of Winnebago will help to reduce pollutants including but not limited to; TSS, phosphorus, nitrogen and fecal coliform. This project is a start in addressing the MPCA's draft MN Nutrient Reduction Strategy which calls for a nitrogen reduction of 12+ lbs per acre for the Blue Earth River, the highest reduction level called for in the state.

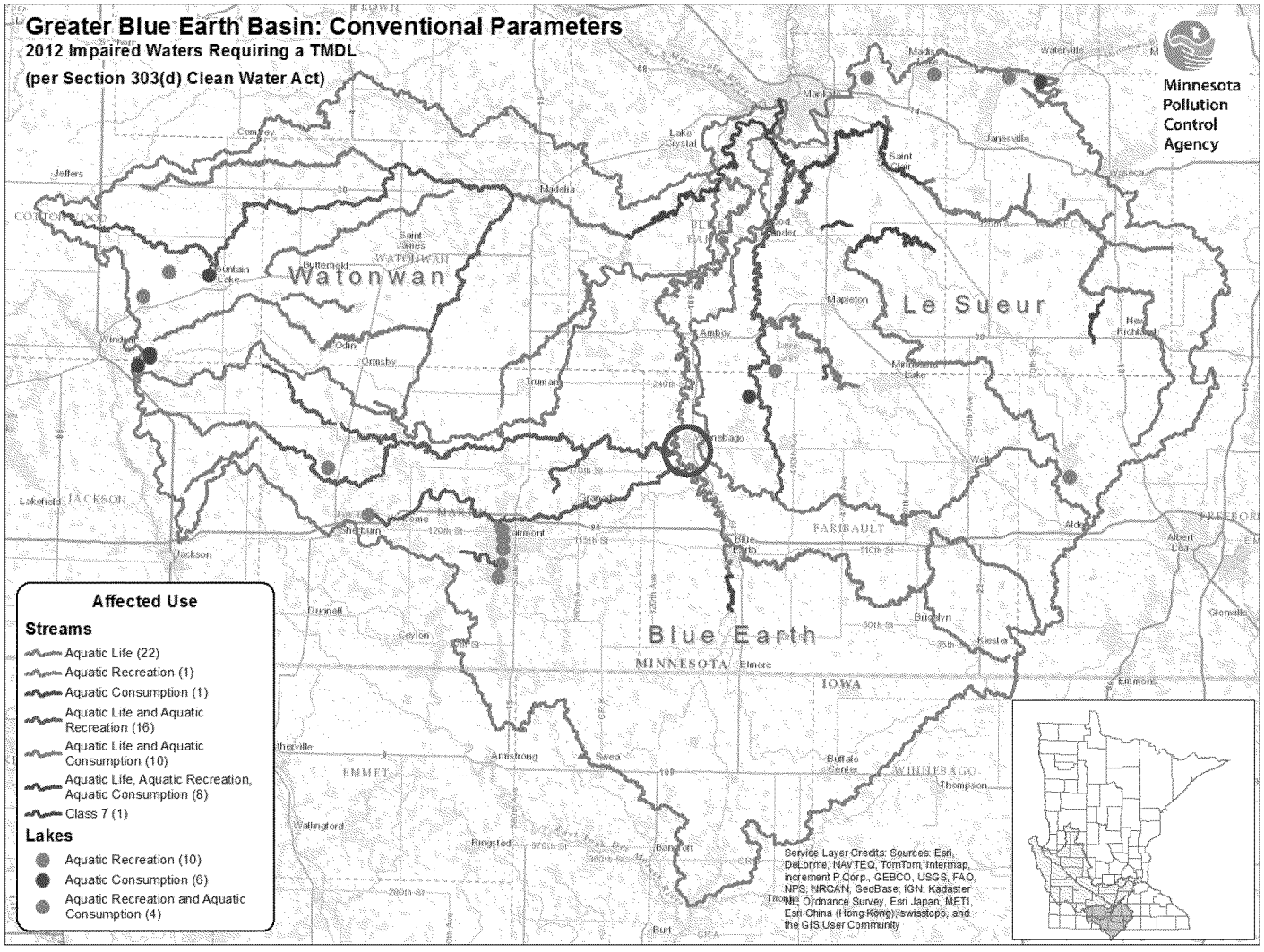
2.3 Opportunities

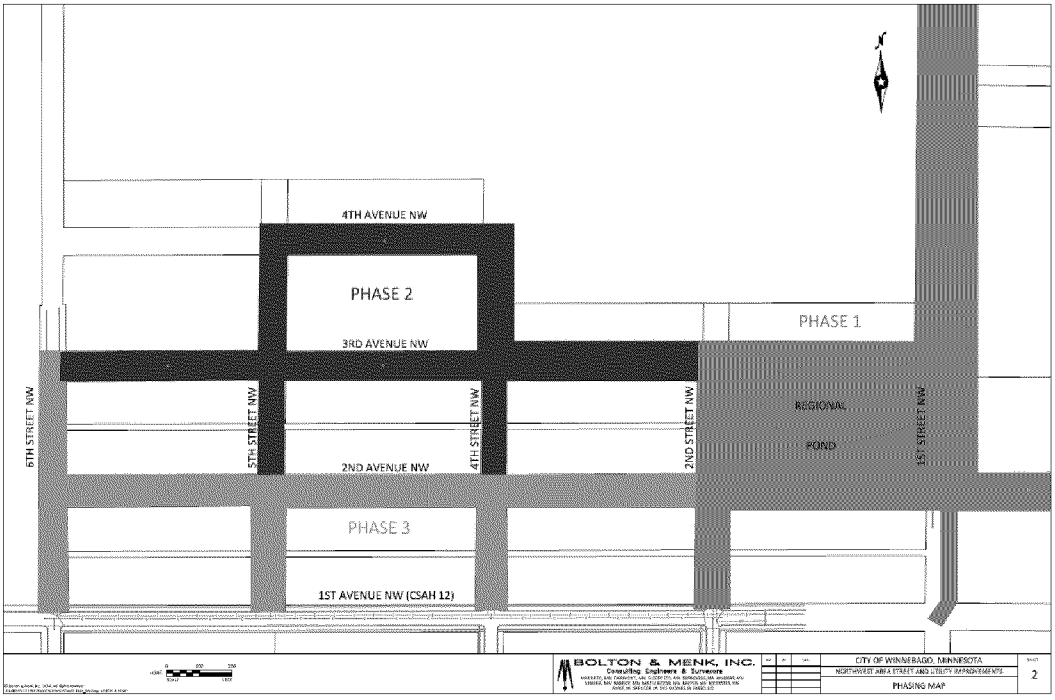
The project focus has been broken into three phases. Improvements in Phase I are considered a higher priority because of the need for a storm water detention basin for runoff and to increase the storm sewer outlet pipe sizing. Phase I plans include a Regional Detention Pond for stormwater runoff in the northwest section of town. Installing the pond one year prior to service will allow for roots to become established and decrease maintenance cost for the first two years.

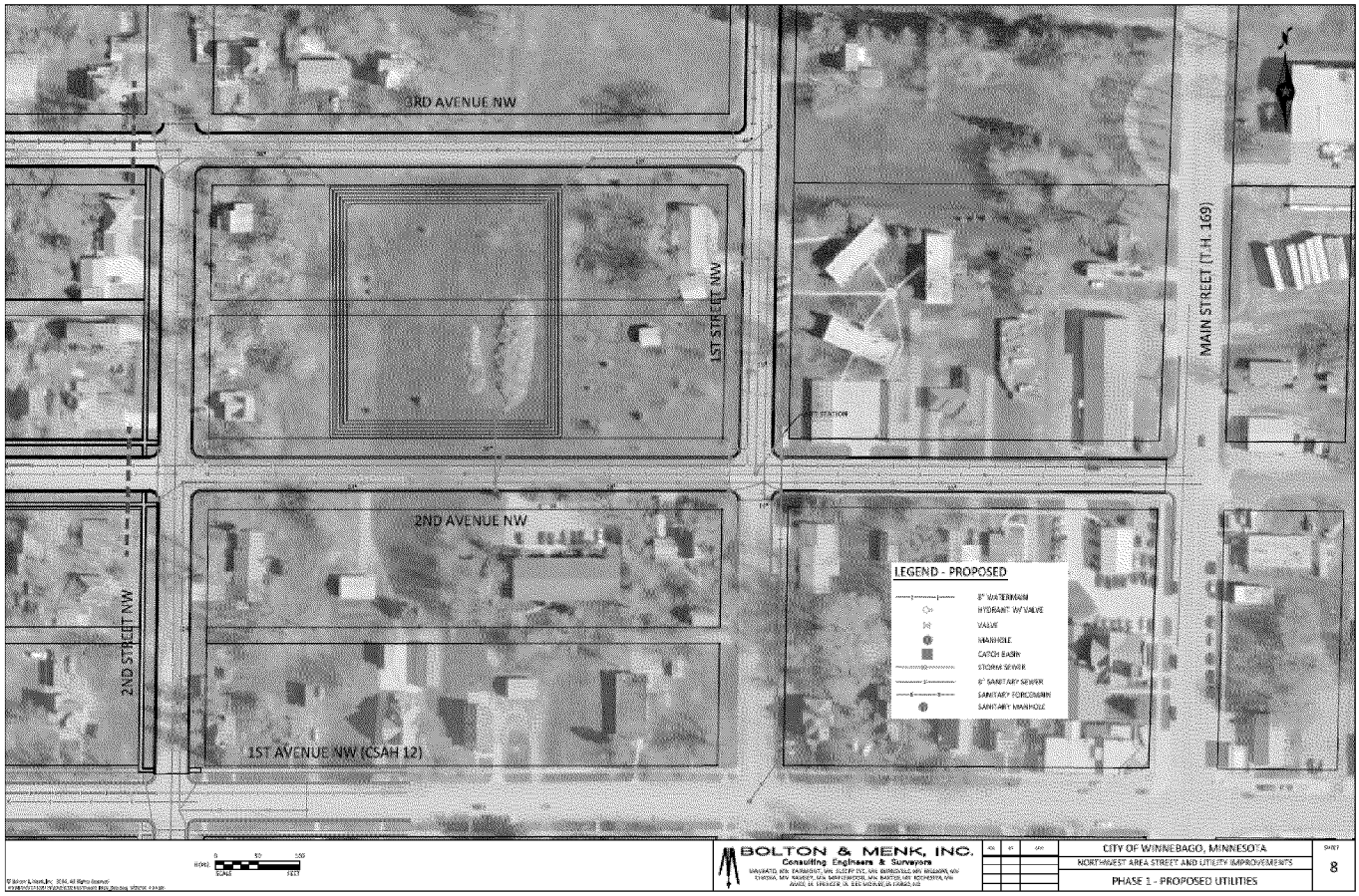
The reconstruction project will fully replace all critical infrastructure included in the 25 block project area. I&I issues will be addressed as the streets and infrastructure are opened up. Past projects in Faribault County have not addressed I&I issues beyond the easement area. This resulted in unforeseen problems after project completions from illegal connection on individual landowner properties. I&I connection issues to the structures were found on over 80% of the easement projects completed.

The improvements recommended in the feasibility study conducted by Bolton & Menk in 2014 concluded that the project will alleviate flooding, reduce I&I and strengthen the critical infrastructure in the project area. The engineers found the project both feasible and cost effective.

Educational activities, newsletters and workshops will be provided through the SWCD for landowners within the project area. Workshops will be open to anyone interested in attending. While I&I issues will be limited to the project area, green infrastructure practices will occur throughout the city limits as seen fit by the engineering and technical staff.


Greater Blue Earth Basin: Conventional Parameters
2012 Impaired Waters Requiring a TMDL
(per Section 303(d) Clean Water Act)
Minnesota Pollution Control Agency
Watonwan
Le Sueur
Blue Earth
FARIBAULT
JACKSON
EMMET
WINNEBAGO
MINNESOTA
IOWA
Affected Use
Streams
Aquatic Life (22)
Aquatic Recreation (1)
Aquatic Consumption (1)
Aquatic Life and Aquatic Recreation (16)
Aquatic Life and Aquatic Consumption (10)
Aquatic Life, Aquatic Recreation, Aquatic Consumption (8)
Class 7 (1)
Lakes
Aquatic Recreation (10)
Aquatic Consumption (6)
Aquatic Recreation and Aquatic Consumption (4)
Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community


4TH AVENUE NW
PHASE 2
3RD AVENUE NW
PHASE 1
6TH STREET NW
5TH STREET NW
4TH STREET NW
2ND STREET NW
REGIONAL
POND
1ST STREET NW
2ND AVENUE NW
PHASE 3
1ST AVENUE NW (CSAH 12)
BOLTON & MENK, INC.
Consulting Engineers & Surveyors
CITY OF WINNEBAGO, MINNESOTA
NORTHWEST AREA STREET AND UTILITY IMPROVEMENTS
PHASING MAP
2


3RD AVENUE NW
1ST STREET NW
MAIN STREET (T.H. 169)
2ND AVENUE NW
2ND STREET NW
1ST AVENUE NW (CSAH 12)
LEGEND - PROPOSED
8" WATERMAIN
HYDRANT W/ VALVE
VALVE
MANHOLE
CATCH BASIN
STORM SEWER
8" SANITARY SEWER
SANITARY FORCEMAIN
SANITARY MANHOLE
BOLTON & MENK, INC.
Consulting Engineers & Surveyors
CITY OF WINNEBAGO, MINNESOTA
NORTHWEST AREA STREET AND UTILITY IMPROVEMENTS
PHASE 1 - PROPOSED UTILITIES
SHEET
8

3. Goals, Objectives, Tasks, and Subtasks

Goal: Provide Green Infrastructure Implementation opportunities that coincide with the current infrastructure update activities within the City of Winnebago. Provide loan opportunities for individual landowners to correct Illegal and Illicit (I&I) sewer connections as part of the city improvements. Improve storm water management and reduce loading to the Blue Earth River from storm water and sewer bypasses.

Objective 1: Implementation
Responsible Party: Project Manager/Faribault County SWCD

Task A: Regional Bioretention Cell
Task B: Implementation of Green Infrastructure in Project Area
Task C: City Wide Implementation of Green Infrastructure

Objective 1 Timeline: Spring 2015 – End of Contract Deadline
Objective 1 Cost: $700,000

Objective 1 Deliverables: Installation of a regional bioretention cell within project area. Green Infrastructure projects including but not limited to; bioretention cells, raingardens, permeable pavement, rain water harvest practices, tree trenched, grassed swales and additional practices found in the MN Stormwater Manual.

Objective 2: I&I disconnects
Responsible Party: Project Manager

Task A: Identify of I&I connections in project area
Task B: Disconnect and fix of I&I connections found

Objective 2 Timeline: Spring 2016-September 2017
Objective 2 Cost: $300,000
Objective 2 Deliverables: loan agreements with homeowners correcting I&I connections.

Objective 3: Administration
Responsible Party: Faribault County SWCD/City of Winnebago

Task A: Tracking of the loan projects
Task B: Reporting of project via semi-annual, annual, and final reporting requirements

Objective 3 Timeline: Duration of the grant/loan period
Objective 3 Cost: $10,000
Objective 3 Deliverables: Information for budget tracking and match requirements

4. Measurable Outcomes

1. Implement a region bioretention basin within reconstruction project area.
2. Implementation of green infrastructure throughout the City of Winnebago to reduce stormwater volume entering critical infrastructure.
3. Implement voluntary landowner BMPs found in the MN Stormwater Manual.
4. In project area video and disconnect I&I issues between the structures and main connection.
5. SWCD grant program education and civic engagement within the City of Winnebago and project area.

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5. Gantt charts **(see attached spreadsheet)**

6. Project Budget **(see attached spreadsheet)**